

AMENDMENTS TO THE CLAIMS:

Please enter the following amendments:

1 – 9. (Cancelled)

10. (Currently Amended) [[The]] A semiconductor integrated circuit of claim 6,
comprising:

a main circuit including a plurality of MOS transistors in which a source potential and a substrate potential are separated from each other, and operating while receiving an operating power supply voltage; and

a substrate potential control circuit for controlling the substrate potential of a MOS transistor in the main circuit so that a saturation current value of the MOS transistor is equal to a target saturation current value, the substrate potential control circuit, including:

a constant current generation circuit;

a current-voltage conversion circuit including a MOS transistor provided therein and having current-voltage conversion characteristics that change according to the substrate potential of the MOS transistor provided therein for converting a constant current value of the constant current generation circuit to a voltage value; and

a differential amplifier circuit comparing the voltage value generated by the current-voltage conversion circuit with the operating power supply voltage and outputting a voltage for controlling the substrate potential of the current-voltage conversion circuit so that the voltage value generated by the current-voltage conversion circuit is equal to the operating power supply voltage value of the main circuit,

wherein the substrate potential control circuit controls a substrate potential of a MOS transistor in the main circuit, and

the constant current generation circuit generates a plurality of constant current values, and selectively outputs one of the plurality of constant current values.

11. (Cancelled)

12. (Currently Amended) [[The]] A semiconductor integrated circuit of claim 11, comprising:

a main circuit including a plurality of MOS transistors in which a source potential and a substrate potential are separated from each other, and operating while receiving an operating power supply voltage; and

a substrate potential control circuit for controlling the substrate potential of a MOS transistor in the main circuit so that a saturation current value of the MOS transistor is equal to a target saturation current value, the substrate potential control circuit, including:

a constant current generation circuit;

a current-voltage conversion circuit including a MOS transistor provided therein and having current-voltage conversion characteristics that change according to the substrate potential of the MOS transistor provided therein for converting a constant current value of the constant current generation circuit to a voltage value; and

a differential amplifier circuit comparing the voltage value generated by the current-voltage conversion circuit with the operating power supply voltage and outputting a voltage for controlling the substrate potential of the current-voltage conversion circuit so that the

voltage value generated by the current-voltage conversion circuit is equal to the operating power supply voltage value of the main circuit,

wherein the substrate potential control circuit controls a substrate potential of a MOS transistor in the main circuit,

the constant current generation circuit generates a constant current with a variation rate smaller than that for the saturation current value of the MOS transistors of the main circuit, and

the constant current generation circuit includes an adjustment circuit for reducing variations in the generated constant current value.

13 – 14. (Cancelled)

15. (Previously Presented) The semiconductor integrated circuit of claim 13, wherein the target saturation current value of the MOS transistors of the main circuit is in a linear function relationship with the operating power supply voltage supplied to the main circuit.

16. (Previously Presented) The semiconductor integrated circuit of claim 13, wherein:
the main circuit includes a plurality of operating power supply voltage ranges;
the target saturation current value of the MOS transistors of the main circuit is in a linear function relationship with an operating power supply voltage value within an operating voltage range for each operating power supply voltage range of the main circuit;
the linear function relationship between the target saturation current value and the operating power supply voltage value is different for each operating power supply voltage range.

17. (Previously Presented) The semiconductor integrated circuit of claim 15, wherein the target saturation current value of the MOS transistors of the main circuit is a target saturation current value of an nMOS transistor or that of a pMOS transistor from among the MOS transistors of the main circuit, or is an average value between the target saturation current values of the nMOS and pMOS transistors.